

REMARKS

Prosecution

Applicant respectfully requests reconsideration of the outstanding objections and rejections set forth in the Office Action mailed on January 25, 2006 in view of Applicant's instant claim amendments and the following Remarks. Applicant respectfully notes that the PTO-326 lists claims 53, 61-70, and 75-78 as rejected but no specific rejections were set forth in the body of the Office Action.

Specification Amendment

Applicant respectfully requests entry of the above amendment to the title and submits that the above amendment does not constitute new matter. Support for the amendment to the title can be found throughout the specification as originally filed.

Claim Amendments

Upon entry of the foregoing amendment, claims 50-53, 59-70, and 75-87 are pending in the application. Claim 67 has been amended. Applicant respectfully requests entry of the above amendment and submits that the above amendment does not constitute new matter. Support for the amendments to the claims can be found throughout the specification and in the claims as originally filed. Support for the amendment to claim can be found, *inter alia*, in the specification and, for example, at page 6 lines 11-19.

Claim Objections

The Office Action objected to claims 53, 61, 63-69, 75-78, and 87 under 37 C.F.R. § 1.75(c), as being improper dependent form for failing to further limit the subject matter of a previous claim. Specifically, the Office Action alleges that claims 53 and 87 fail to further limit the subject matter of claim 50; claims 68-69 and 75-78 fail to further limit the subject matter of claim 61; and claim 67 fails to further limit the subject matter of claim 61 because it allegedly merely recites an intended use of the same system. Applicant respectfully traverses this objection.

35 U.S.C. § 112 ¶ 6 allows applicants to use “means plus function” language in their claims. The “means plus function” limitation is read in light of the specification and may be limited by dependent claims. In re Donaldson Co., 16 F.3d 1189, 29 USPQ2d 1845 (Fed. Cir. 1994). Further, by statute, a claim without structure literally includes equivalents and a claim with structure does not literally cover equivalents. Therefore, any dependent claim which has a structural limitation is, by definition, more narrow than the claim without a structural limitation (i.e. a claim in “means plus function format”).

Here, claim 50 recites “conversion means for receiving ultraviolet or visible light and directionally transferring light energy of said light”. This limitation in claim 50 is narrowed by the definition of such “conversion means” in claim 53, which specifies it to be “a supermolecular light-absorbing structure” and in claim 87, which specifies it to be “phycobiliproteins specifically connected by linker polypeptides.” Therefore both claims 53 and 87 further limit the subject matter of claim 50 by specifying the type of structure which serves as the “conversion means”.

In addition, claim 61 uses similar “means plus function language” by stating, “conversion means for receiving electromagnetic radiation and converting said electromagnetic radiation into light energy having a desired property”. Claims 68-69 further limit claim 61 by specifying which type of electromagnetic radiation is received by said means, in particular “ultraviolet or visible light” in claim 68 and “red-shifted relative to the received electromagnetic radiation” in claim 69. Claim 75 further limits claim 61 by specifying what type of receiving means are used, in particular “a structure comprising a phycobilisome”. Claims 76-78 further limit claim 75 by specifying the composition of the phycobilisome as described in claim 75. Therefore claims 68-69 further limit claim 61 by specifying the type of electromagnetic radiation and claims 75-78 further limit claim 61 by specifying the receiving means structure.

Claim 67 has been amended to further limit claim 61 by specifying what type of system it is, in particular, “an environmentally responsive sensor”.

Reconsideration and withdrawal of the objection is respectfully requested.

The Office Action objects to claims 53, 61, 67-69, 75-78, and 87 under 37 C.F.R. § 1.75 as being substantial duplicates of claim 50 and claims 63-66 under 37 C.F.R. § 1.75 as substantial duplicates of claims 51, 59, 69, and 52 respectively. Applicant respectfully traverses this objection.

35 U.S.C. § 112 ¶ 6 allows applicants to use “means plus function” language in their claims. The “means plus function” limitation is read in light of the specification and may be limited by dependent claims. In re Donaldson Co., 16 F.3d 1189, 29 USPQ2d 1845 (Fed. Cir. 1994). Further, by statute, a claim without structure includes equivalents and a claim with structure excludes equivalents. Therefore, any dependent claim which has a structural limitation is, by definition, more narrow than the claim without a structural limitation (e.g. “means plus function”).

Here, claim 50 is drawn to a, “system for processing a light signal comprising: conversion means for receiving ultraviolet or visible light” and, in contrast, claim 61 is drawn to a, “system for processing electromagnetic radiation comprising: conversion means for receiving electromagnetic radiation”. [emphasis added] The two claims are clearly distinguished by the fact that claim 50 receives ultraviolet or visible light ($\lambda \sim 200$ -650 nm), a smaller group than claim 61’s broader electromagnetic radiation which includes, for instance, infrared and X-rays (all λ from $\sim 10^{-6}$ nm to 1 m). Therefore, claim 61 is not a substantial duplicate but is in fact a broader claim than claim 50.

The dependent claims included in the objection fall into two groups: Claim 50 and its dependent claims, 51-53, 59-60, and 79-87; and Claim 61 and its dependent claims 62-70 and 75-78.

As discussed above, claims 53 and 87 further limit claim 50 and as such are not substantial duplicates.

As discussed above, claim 67 has been amended to further limit claim 61 by specifying what type of system it is, in particular, “an environmentally responsive sensor”. Thus claim 67 is not a substantial duplicate of claim 50.

As discussed above, claims 68-69 further limit claim 61 by specifying which type of electromagnetic radiation is received by said means, in particular “ultraviolet or visible

light” in claim 68 and “red-shifted relative to the received electromagnetic radiation” in claim 69. Thus claims 68-69 are not substantial duplicates of claim 50.

As discussed above, claim 75 depends from claim 61 and further limits claim 61 by specifying what type of receiving means are used, in particular “a structure comprising a phycobilisome”. Claims 76-78 further limit claim 75 by specifying the composition of the phycobilisome as described in claim 75. Thus these claims are not “the same thing” as claim 61.

Reconsideration and withdrawal of the objection is respectfully requested.

The Office Action objects to claims 62 and 70 as being dependent upon a rejected base claim. Applicant respectfully traverses this objection.

Applicant submits that no claims were rejected *per se* in the Office Action and, as instantly presented, all of the claims are allowable. Therefore this objection is *moot*.

Reconsideration and withdrawal of the objection is respectfully requested.

CONCLUSION

In view of the foregoing Amendment and Reply to the Office Action of January 25, 2006, Applicant respectfully submits that claims 50-53, 59-70, and 75-87 are in condition for allowance, and such disposition is earnestly solicited. Should the Examiner believe that any patentability issues remain after consideration of this Response, the Examiner is invited to contact the Applicant's undersigned representative to discuss and resolve such issues.

In the event that a variance exists between the amount tendered and that deemed necessary by the U.S. Patent and Trademark Office to enter and consider this Response or to maintain the present application pending, please credit or charge such variance to the undersigned's **Deposit Account No. 50-0206**.

Respectfully submitted,
HUNTON & WILLIAMS LLP

Dated:

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